Claims

- 1. A water-soluble resin having a structure corresponding to a copolymer of a monomer mixture containing a vinylic monomer (A) having a hydroxyl group and an amido bond, and a vinylic monomer (B) having a cationic group.
- 2. The water-soluble resin of claim 1, wherein the vinylic monomer (A) having a hydroxyl group and an amido bond is represented by the formula (1):

$$CH_2=C(R^1)-CO-NR^2-(CH_2)_a-OH$$
 (1)

wherein R¹ represents a hydrogen atom, or a methyl group; R² represents a hydrogen atom, or an alkyl group or a hydroxyalkyl group having 1 to 4 carbon atoms; a is an integer from 1 to 4.

- 3. The water-soluble resin of claim 2, wherein a in the formula (1) is 2.
- 4. The water-soluble resin of any one of claims 1 to 3, wherein the vinylic monomer (A) having a hydroxyl group and an amido bond is hydroxyethyl acrylamide, or hydroxyethyl methacrylamide.
- 5. The water-soluble resin of any one of claims 1 to 4, wherein the vinylic monomer (B) having a cationic group is represented by the formula (2):

$$CH_2=C(R^3)-CO(O)_b-(NH)_{1-b}-(CH_2)_c-N^+R^4R^5R^6\cdot X^-$$
 (2)

wherein R³ represents a hydrogen atom, or a methyl group; R⁴

and R^5 each independently represent an alkyl group or an aryl group or an aralkyl group having 1 to 24 carbon atoms; R^6 represents a hydrogen atom, an alkyl group or an aryl group or an aralkyl group having 1 to 24 carbon atoms, or $CH_2-CH(OH)-CH_2-N^+R^7R^8R^9\cdot Y^-$; R^7 to R^9 each independently represent an alkyl group or an aryl group or an aralkyl group having 1 to 24 carbon atoms; X^- and Y^- each independently represent an anion; b represents 0, or 1; and c represents an integer from 1 to 10.

- 6. The water-soluble resin of any one of claims 1 to 5, wherein the vinylic monomer (B) having a cationic group is at least one selected from the group consisting of meth acroyloxyethyl-trimethylammonium chloride, acroylaminopropyl-trimethylammonium chloride, and meth acroylaminopropyl-trimethylammonium chloride.
- 7. The water-soluble resin of any one of claims 1 to 6, wherein the monomer mixture containing a vinylic monomer (A) having a hydroxyl group and an amido bond, and a vinylic monomer (B) having a cationic group contains 20 to 90% by weight of the vinylic monomer (A) having a hydroxyl group and an amido bond, and 10 to 80% by weight of the vinylic monomer (B) having a cationic group.
- 8. The water-soluble resin of any one of claims 1 to 7, wherein weight average molecular weight is 5,000 to 5,000,000.
 - 9. The water-soluble resin of any one of claims 1 to 8,

wherein the water soluble-resin can form an aqueous solution having a concentration of at least 5% by weight.

- 10. The water-soluble resin of any one of claims 1 to 9, wherein the vinylic monomer (A) having a hydroxyl group and an amido bond is hydroxyethyl acrylamide, and the vinylic monomer (B) having a cationic group is at least one selected from the group consisting of (meth)acroyloxyethyltrimethylammonium chloride, and (meth)acroylaminopropyltrimethylammonium chloride.
- 11. A hair cosmetic material containing the water-soluble resin of any one of claims 1 to 10.
- 12. The hair cosmetic material of claim 11, further containing an anionic surfactant.
- 13. The hair cosmetic material of claim 12, which is an aqueous solution containing 0.05 to 5% by weight of the water-soluble resin and 5 to 40% by weight of the anionic surfactant.
- 14. A silicone oil adsorption assistant comprising the water-soluble resin of any one of claims 1 to 10.